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ABSTRACT

This report describes the National Public Telecomputing Network's (NPTN) development of free, public-access, community computer systems throughout the United States. It also provides information on how to initiate a "Free-Net" through the Rural Information Network. Free-Nets are multi-user systems with some of the power and sophistication of commercial systems, yet each system is locally owned and operated, and designed according to the information needs of the local community. Because few rural areas have access to an Internet node and the technical personnel necessary to manage such a system, Free-Nets have primarily been an urban phenomenon. However, in the fall of 1993, NPTN received several grants to develop Free-Nets in rural areas. The Rural Information Network runs on Macintosh computers and allows individual users to connect to community computers via a local phone call. Each community computer will, in turn, connect to the Internet (and to NPTN services) via periodic phone calls to the closest Internet node. NPTN services range from educational programs to access to health and medical informational services. The program has several requirements: (1) participation is limited to communities of less than 50,000 people; (2) the community must provide an institutional sponsor such as a county government or county school system, and the sponsor must develop a community-based governing board for the system; (3) the institutional sponsor or governing board must agree that the system will be a part of the NPTN-RIN program for at least 2 years; and (4) the institutional sponsor or governing board must agree that access to all basic services will be free to the user while the community is part of the NPTN program. (LP)

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The National Public Telecomputing Network

RURAL INFORMATION NETWORK

A popular government without popular information, or the means of acquiring it, is but a prologue to a farce or a tragedy, or perhaps both. Knowledge will forever govern ignorance, and a people who mean to be their own governors must arm themselves with the power which knowledge gives.

- James Madison

THE PROBLEM OF RURAL DATAFICATION

For the past eight years personnel from the National Public Telecomputing Network (NPTN) have been involved in the development of free, public-access, community computer systems throughout the U.S., and now the world.

Perhaps the easiest way to understand these community computers, called "Free-Nets,"® is to think of a continuum with, let's say, a commercial service such as CompuServe at one end and a hobbyists BBS at the other. Free-Nets occupy a new middle-ground between the two. They are multi-user systems with (hopefully) some of the power and sophistication of a commercial system such as CompuServe or Prodigy; yet each system is locally owned, locally operated, and designed to wrap itself around the information needs of the local community. They are also free to the user in the same sense that a public library, for example, is free to its patrons.

That's the good news...

The bad news is that the development of these systems has, up to this point, primarily been an urban phenomena. The sad fact is that, almost by necessity, it had to be that way.

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Linking rural locations into the major electronic highways is a non-trivial event. Few rural locations have easy access to an Internet node and, even if they did, even fewer would have the technical personnel necessary to manage ongoing connections to a Unix-based wide area network. Yet, at the same time, we could not ignore the needs of these less populated areas. If this country—or any country—is going to enter the Information Age with equity, all elements of society must be included—rural as well as urban.

This presented a bit of a challenge.

What was needed was a way to establish Free-Net[1] type systems in rural locations—no matter how remote they might be. The systems had to connect in some way to the Internet so the users could at least have Internet electronic mail and receive NPTN "Cybercasting Services," but it had to be so simple to operate that any intelligent layperson could run one. The systems had to connect to and build upon the wonderful pioneering work of existing rural networks such as the Big Sky Telegraph in Montana and others. And, above all, the systems had to be incredibly inexpensive to establish and operate—ideally under $10,000 in start-up costs.

THE SOLUTION

In the Fall of 1993 NPTN received a $25,000 grant from the Morino Foundation of Great Falls, Virginia to develop such a system. Shortly after that a $16,000 equipment grant was received from the Apple Corporation - Apple Library of Tomorrow program, and the NPTN Rural Information Network (NPTN-RIN) began to take shape.

At the heart of the project is a software product called "FirstClass," developed by SoftArc, Inc. of Toronto.[2] This package will allow almost any community—no matter how small or how remote—to establish a multi-user Free-Net computer system. It will allow the development of the kind of local information resources which have become the hallmark of NPTN systems, and it will allow NPTN to service that system with many (if not most) of the same high-quality Cybercasting Services that we send to the major urban centers. In addition, it allows at least limited connectivity to the larger world via Internet-based electronic mail and "newsgroup" feeds

Perhaps the best part is that it runs on off-the-shelf Macintosh computers, and requires no network or computer knowledge more advanced than basic Macintosh point-and-click skills. Individual rural users will connect to these community computers via local phone calls. Each community computer will, in turn, connect to the Internet (and to NPTN services) via periodic phone calls (called "uucp" connections) to the closest Internet node.

Thus a rural teacher, for example, will not have to place a long distance call to an Internet node every time a student wants to use, for example, NPTN's suite of K-12 educational services. Instead, he or she will call their local NPTN-RIN machine and access those services there. This machine will, in turn, connect to the closest Internet node twice a day (or four times a day, or once an hour, or whatever you choose) to keep itself updated.

It is important to be clear that these systems will NOT have a full Internet connection. Your users will NOT have access to "telnet," "gopher," "ftp" and other features common to a direct Internet link. They WILL, however, have access to full

Internet electronic mail, listservs, "gopher-mail," selected Usenet newsgroups, and any other Internet feature that can be done through a uucp link.

No one knows exactly when our rural communities will routinely have full access to the Internet. Some say a few years; some say a few decades. When and if a particular town DOES get Internet connectivity, simply plug this system into the Internet and continue what you are doing; or, build another system with even greater capacity and with even more features. Whatever happens, you will need a hub of some kind so the question is: do you wait, or do you act now?

By building one of these systems and joining the NPTN Rural Information Network you will have introduced some of the key elements of this technology to your community—to people who possibly otherwise would not have been exposed to it. You will have developed a knowledgeable user-base which, in turn, will lay the foundation for whatever technologies might come, whenever they come. And that is a very important step for ANY community to take.

WHO IS ELIGIBLE TO PARTICIPATE?

Eligibility to participate in the NPTN Rural Information Network is limited as follows:

1) Participation is limited to communities of less than 50,000 people.

The NPTN-RIN Program is not designed to deal with major urban areas (we have other programs for that). Thus, we are limiting participation to locations which have less than 50,000 people living *within a local telephone calling radius* of the proposed system. This number could be adjusted slightly upward depending on circumstances, but the idea is to develop *rural* systems—not urban or even sub-urban systems.

2) The community must provide an institutional sponsor and develop a community-based governing board for the system.

These systems are *not* designed to be run by a single individual such as you might find on a private BBS.

First, it must be sponsored by an institutional partner such as a library, city or county government, corporation, county school system, etc. This "sponsorship" does not necessarily imply a financial commitment (although that would be nice). It is simply a way to establish some source of support for the success of the project.

Second, while a single individual might be tasked with day-to-day technical operations, it is expected that each system will have a governing board of community members to oversee its operations. Participation by a broad-spectrum of the community is important to the health and vitality of any community computer and this board helps ensure that this will happen.

3) The institutional sponsor and/or governing board must agree that your system will be a part of the NPTN-RIN program for at least two years.

We very much want to work with you and your committee to bring online a system of the highest possible quality. To design and execute such a system, however, will require significant effort and commitment on your part. We want you to understand that commitment and make it now—before we even start.

4) The institutional sponsor and/or governing board must agree that access to all basic services must be kept free to the user while it is part of the NPTN-RIN Program.

NPTN is not in the business of creating commercial systems. (If we wanted to do that we could have all retired years ago.) Thus, you may not charge your users any fee for registration, access to the system, or time spent on the system accessing its basic services (e.g. electronic mail, NPTN Cybercasting services, locally originated bulletin boards or discussion groups, etc.). It is possible, however, that additional services might be provided (electronic newspapers, for example) for which a fee of some kind might be charged, either to defray the cost of the product, or as a source of additional revenue for the system.

HOW TO PROCEED FROM HERE

STEP 1: If you are interested in starting a rural Free-Net, send a message to NPTN at one of the electronic or snailMail addresses shown below. In it, state your intention to set-up an NPTN Rural Information Network system and be sure to include your snailMail address.

We will then send you the following:

- Further information on NPTN and the concept of community computing;
- An information sheet outlining the the things you need to take into consideration when purchasing or obtaining equipment, phone lines, Internet connections, etc. for this project;
- a worksheet to help you calculate the exact cost of doing the project;
- a catalog of the NPTN Cybercasting Services you will have available to you, and a check-off sheet for those services you would like on your initial system;
- a selection sheet for the free electronic newspaper or magazine you may have delivered to your system by the American Cybercasting Corporation (ACC) as a function of your participation in this program (e.g. Choose from: USA Today, London Times, Jerusalem Post, Los Angeles Times, and many others);
- a blank "Organizing Agreement;" and
- finally, we will include a blank "Affiliate Agreement"—the specific terms, if you will, of your participation in the NPTN Rural Information Network.

STEP 2: Form an Organizing Committee. You should have at least three people on it (more is better) and it should represent a broad spectrum of the community—e.g. schools, government, library, business community, etc.

STEP 3: Find at least one institution—such as a library, city or county government, corporation, county school system, etc.—that will go on record as being the "sponsor" of this project. This need not necessarily mean financial sponsorship, but they should be willing to publicly put their name behind the project and be willing to help out in some significant way.

STEP 4: Fill-out and send in your Organizing Agreement (sent to you in Step 1). This document, when executed, registers you as a Organizing Committee of NPTN and gives you exclusive rights to develop a Free-Net in your area. It will also ask for specific information on exactly where you plan to establish your system, who your sponsoring institution will be, who is on your committee, and so forth.

If you have an Internet connected electronic mail address (most commercial services like CompuServe, America On-Line, Delphi, etc. would qualify), at your

option, we will add you and/or other members of your committee to a special NPTN-RIN listserv.

> (NOTE: A listserv is like a giant electronic mail "exploder." An Organizing Committee member in one city, for example, might have a question concerning some particular problem or procedure. He or she would send an electronic mail message to the NPTN-RIN listserv. Our machine would then send that message out to everyone else who is on that list. Someone in another state or country might see the message and reply with a solution, which is also sent out to everyone on the list. Thus, you are able to conduct rolling, time-shifted, electronic discussions of problems and solutions, via electronic mail. This will give you, in effect, an electronic lifeline for help and support in getting your system started.)

STEP 5: Begin gathering the hardware, modems, phone lines, etc. that will be needed to bring your system online.

STEP 6: Once you have gathered the appropriate hardware, fill-out and sign the "Affiliate Agreement" that was also sent to you in Step 1 as well as the accompanying information form and Cybercasting Services check-off sheet. You will also be asked to include a letter of support from your sponsoring institution.

Include with this agreement a check made out to NPTN for $2500 for the first years affiliate fees.[3] For this you get:

- Membership in NPTN and in the Rural Information Network;
- One seat on NPTN's Affiliate Council (the main policy-making body of the organization);
- The right to use the word "Free-Net" in the name of your system;
- Access to any of over 65 NPTN Cybercasting Services, which can be used to supplement the services you are able to develop locally;
- A free subscription to the electronic newspaper or magazine of your choice from the list provided in Step 1; and the ability to purchase additional electronic newspapers and magazines from ACC at deep discount prices;
- The ability to purchase SoftArc "Free-Net Special" software at deep discount prices;
- The ability to purchase Macintosh hardware, modems, etc. at discount prices, as this comes available; and
- As much technical, organizational, and fund-raising support as we can provide.

If you wish to purchase SoftArc's "Free-Net Special" software, add $2000 to the affiliate fee costs. Included in this package you will receive:

- FirstClass Macintosh Server
- 5000 Telecom User License
- Two Administrative User Licenses
- Macintosh, Windows, and ASCII Interfaces
- 20 modem port software license
- UUCP Gateway

(As a point of comparison, the regular retail price of this same package to an educational or non-profit organization is $10,130. To a corporation or for-profit organization, it is $15,630.)

STEP 7: Load-up the software, load-up the cybercasting materials, fire-up the modems... and welcome to the finest network of community computers in the world—urban or rural.

ABOUT NPTN

The National Public Telecomputing Network is an Ohio nonprofit corporation, which has received 501(c)(3) tax exemption status from the Federal government.

It is governed by a seven member Board of Trustees and by an Affiliate Council which consists of one delegate from each operational NPTN system. The Affiliate Council advises the corporation on matters of policy and proceedure and elects the Board of Trustees.

Headquartered in Cleveland, Ohio, NPTN maintains a full-time staff of seven people with a number of part-time people who work on a project-by-project basis. The president of the organization is its founder, Dr. Tom Grundner.

Perhaps the easiest way to understand the function of NPTN is to think of something like National Public Radio or PBS on television, then substitute the community computers described above for radio and TV stations. We help cities to bring systems online with organizational and technical support, weld them into a common organization, and provide them with "Cybercasting Services." These are high-quality information services and features which supplement what the Affiliate is able to generate locally—sort of like network radio and TV broadcasts.

These services range from: "Academy One," our award-winning online program for K-12 schools; to our "Teledemocracy Program" which brings governmental information features to our community systems; to a suite of services in the area of health and medicine—with many more service areas currently under development.

FOR MORE INFORMATION:

If you have any questions about NPTN or the Rural Information Network, please contact:

NPTN - Rural Information Network
Box 1987
Cleveland, Ohio 44106

Voice: 216-247-5800
Fax: 216-247-3328
e.mail: info@nptn.org

If you have access to Internet "ftp" capability, you can get additional information about NPTN at our ftp site. Just do an anonymous ftp to: nptn.org "cd" over to /pub/info.nptn and download away.

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(1) The term "Free-Net ®" as used throughout this document is a registered servicemark of the National Public Telecomputing Network.

(2) Platforms for MS-DOS machines and other software options are also currently being explored.

(3) Affiliate membership fees are set each year by NPTN's Board of Trustees at the annual meeting. This fee is subject to change, although as of this writing no changes are anticipated through the 1994-1995 fiscal year.